Green Building Project Fact Sheet

Papago Buttes Church of the Brethren

Project	**Project Address** **Client** **City** **Lat/Long/Elev**	2450 North 64th Street Papago Buttes Church of the Brethren Scottsdale, Arizona 33° 30' North, 111° 52' West, 1180 ft (360 m) above sea level
Team	**Architect** **Builder**	FEZ Architectural Design Swartz Construction Co.
General	**Time Line** **Floor Area** **Cost**	Construction began in February 2004 8890 ft² (826 m²), 2315 ft² covered (215 m²) Unknown
Site	**Orientation & Building Form** **Heat Mitigation** **Irrigation** **Light Pollution**	▪ Structures, vegetation and/or water features used to create cool outside space around building entrances. ▪ Shading of park areas. ▪ Parking areas separated from building. ▪ Decomposed granite parking lot with geotech sub-base. ▪ Drip irrigation system. ▪ Site lighting powered with low voltage photovoltaics.
Water	**Indoor Conservation**	▪ Waterless urinals. ▪ Close proximity of water heaters (20 ft, 6 m).
Energy	**Building Envelope** **Doors & Windows** **Mechanical Equipment**	▪ Use of thermal mass design. ▪ Wall assembly rated with min. U-value of .033. ▪ Roof/ceiling insulated to min. R-40. ▪ Design entries with vestibules to minimize air infiltration. ▪ Minimize effects of thermal bridging in walls, roofs, and windows. ▪ Exterior doors insulated to R-5 or greater. ▪ Windows with NFRC rating of U-0.38 or less. ▪ Solar heat gain coefficient of 0.40 or less. ▪ Thermally broken frames. ▪ Insulated interior window treatments at building envelope. ▪ Optimally located mechanical equipment with all duct runs reduced to 35' max. ▪ Use of ceiling fans where possible. ▪ Use of economizers on mechanical units. ▪ Gas water heater with Energy Factor [EF] of 0.60 or greater. ▪ Insulate hot water pipes to R-6. ▪ Water heater with insulating blanket installed to manufacturer's specifications. ▪ No main HVAC trunk lines made of flex duct and no flex duct takeoffs over 5 ft (1.5 m). ▪ No turns in ductwork over 90 degrees. ▪ Water heater that operates at a minimum of 0.57 EF for 30 gallon (114 liter), 0.55 EF for 40 gallon (151 liter), and 0.53 EF for 50 gallon (189 liter).

Energy	**Interior Lighting**	▪ Compact fluorescent lights substituted for incandescent. ▪ Light colored interior finishes and walls. ▪ Automated lighting control system.
Indoor Environmental	**Indoor Environmental Quality**	▪ Air-to-air heat exchanger. ▪ Use of faced or protected insulation in attic space, walls, and ductwork. ▪ Fresh air provided in HVAC systems exceeds minimum standards by 25%. ▪ HVAC filter is electronic; or 4 inches (0.1 m) thicker pleated-media type: easily accessed. ▪ Pollution controlled ventilation system. ▪ Visual access to exterior. All workstations with view shall be maximum 25 ft (8 m) away from windows. ▪ Electrical main panel set 10 ft (3 m) or more away from areas of frequent occupancy.
Materials	**Foundation** **Structural Systems** **Roofing** **Exterior Finishes** **Interior Finishes** **Cabinetry & Trim**	▪ Use environmentally sensitive termite pretreatment. ▪ Reuse form boards/use alternative product. ▪ Alternative trusses for floors/roofs. ▪ Recycled content underlayment/sheathing or 70% OSB. ▪ Recycled steel studs used in more than 90% of interior walls. ▪ Wall stud framing at 24 inches (0.6 m) on center. ▪ Wall system engineered or alternative type. ▪ Use regional materials. ▪ Optimize use and effectiveness of rooftop spaces. ▪ Minimize heat absorption, use systems that retard heat & glare. ▪ Use systems that maximize noise reduction. ▪ Locally produced block or brick. ▪ Cementitious integral colored stucco system. ▪ Wall colors have a LRV of 40% or less for reduced desert glare. ▪ Paints or finishes with recycled content. ▪ Low-toxicity, low-solvent adhesives. ▪ Water based urethane and lacquer finishes on wood. ▪ No tropical hardwood. ▪ Recycled content carpet pad if used. ▪ Natural linoleum with low-toxic adhesives or backing. ▪ Recycled content tile. ▪ Finished concrete/ no carpet with toxic sealer. ▪ Composite wood products must contain no added urea formaldehyde or phenol-formaldehyde resins. ▪ Use formaldehyde-free particle board or recycled agricultural product. ▪ Use finger jointed trim. ▪ On-site application of cabinetry done with least toxic finishes.
Environmental Resources	**Insulation Content** **Doors & Windows**	▪ Ceiling/roof insulation recycled-content. ▪ Walls insulation recycled-content. ▪ Low or non-toxic/formaldehyde-free insulation product. ▪ No Luan doors.

Construction Management	**Design & Construction** **Post-Construction Management**	▪ Designate site storage space for building materials. ▪ Centralize construction operations to reduce waste and simplify sorting. ▪ Design in modular dimensions to reduce waste. ▪ Provide for ongoing accountability and optimization of building energy and IAQ over time.